

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
20 January 2005 (20.01.2005)

PCT

(10) International Publication Number  
**WO 2005/005616 A3**

(51) International Patent Classification<sup>7</sup>: C12N 1/00, 5/00,  
C12P 13/04, C07B 59/00, G01N 33/58, 33/68

(21) International Application Number:  
PCT/NL2004/000503

(22) International Filing Date: 12 July 2004 (12.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
PCT/NL03/00514 11 July 2003 (11.07.2003) NL

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(81) Designated States (*unless otherwise indicated, for every  
kind of national protection available*): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (*unless otherwise indicated, for every  
kind of regional protection available*): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:  
2 June 2005

*For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title: COMPOSITIONS AND METHODS FOR STABLE ISOTOPE LABELLING OF BIOLOGICAL COMPOUNDS

(57) Abstract: The present invention is concerned the labelling of biological compounds with stable isotopes such that the three-di-  
mensional structure of the biological compounds may be analysed by e.g. NMR spectroscopy. The invention employs microorgan-  
isms that are grown on mineral media comprising carbon and nitrogen sources that contain stable isotopes to produce biomass that  
is uniformly labelled with stable isotopes. The biomass may be autolysed to produce an autolysate. The biomass may further be  
extracted with organic solvent to produce lipids. The (delipidised) biomass is hydrolysed to produce labelled amino acids and other  
nutrients, which are used together with the autolysate, extracted lipids and further components to compose a culture medium for a  
mammalian or insect host cells for the production of biological compounds that are uniformly labelled with stable isotopes. The  
biological compound preferably is a biological acromolecule, such as e.g. a mammalian membrane protein.



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